

**THE THEMATIC & PROBLEMATIC «HISTORY OF SCIENCE
AND TECHNIQUE & TECHNOLOGY» IN THE ACTIVITIES OF
COMITETUL DE ISTORIE ȘI FILOZOFIE A ȘTIINTEI ȘI TEHNI-
CII AL ACADEMIEI ROMÂNE, FILIALA BRAȘOV* IN THE PE-
RIOD CCA 1989/90-2002**

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Summary: *The paper deals with the tematics & problematics of the History of science and techniques in which members of Brașov Subsidiary of the Committee of the History and Philosophy of Science and Techniques of Romanian Academy / CRIFST/ have efficiently and effectively contributed. There are presented various items, ideas, questions known, which forms the thematics of the History of science and techniques, and, researches, hypothesis, conjectures, models, assertions, modal logics, experiments, observations, reasonable opinions which consist of the problematics of this generous domain.*

Key words: *thematic, problematic, history of science and technology, Romania.*

In the last consecutives years, which compose approximately, the decade after the **social mutation** of the society of Romania and of another important social systems (states, some groups et al.) — i.e. in the period of historical *Tempus* $\Delta T \approx 1989/1990 - 2002$ — some members of the *Filiala Brașov a Comitetului de Istorie și Filozofie a Științei și Tehnicii a Academiei Române / CRIFST/* were mainly attracted by some relevant themes & problems of the history of **Technique** and also of some topics and questions of **Science** specifically, (separately or in interaction; intensively) connected¹ with the **Culture & Civilization** constituted, and in dynamical historical evolution, in the **Carpathean-Danubean-Pontean Space**. The complex thematic & problematic^{***}, ^{****} «**Technical and Scientifical heritage**»

* i.e. **CRIFST** Subsidiary Brașov .

** Member of **CRIFST**.

*** In a *thematika* the all/most part of content (with various items: matter, ideas, considerations et al.) are and consequently the main “accent” of this intellectual activity in **didactical** (presentation, hermeneutics); in a *problematika* the most / principal part of the content (with various items, ideas, questions et al.) are unknown, and, consequently, the main “accent” of this intellectual activity is **research** (hypothesis, conjectures, models, demonstrations, arguments, considerations, postulates, assertions, modal logics et al; theories, doctrines, experi-

(national; transnational) has interested the quasitotality part of the members of this transylvanean Subsidiary of *CRIFST*.

We point in this *compte-rendu* only the main investigations achieved in this Romanian institution of research¹, — which is also a (defined, *sui generis*) *schola*² — by some of its members and co-workers.

The generous reader can make by his own deep meditation an enough coherent *imago* on the **thematics & problematics**^{3,***} which were considered (laboriously) by the Brachoveneans researchers making an rapid (but efficient) analysis of the information condensed in the titles of *studiums* still published — works, mentioned in the sequel; some supplementary details (data, considerations, interrogations,

ments, observations, mathematisation, theorization; critics, discussions, analysis and synthesis, hermeneutics; reasonable opinions et al.).

**** Actives, less contemplatives intellectuals — philosophers, observers, considerators, scientists, didacticists, educators, ideologists, some technologists, and managers, religious representatives, artists, militants et al. — operate *in mente* with **entities (material & spiritual** with various properties (principal, secondary, tertiary et al. characteristics; sets of peculiarities integrated in aspects, et al.) framed by them in **thematics & problematics**:

a. an conceived (defined *in ratio*; measurable/ measured, et al) intellective (generic) **entity** framed in one/ more **thematics** is — *ex definitio* — **predominantly known**; thus the effort of the active (generic) intellectual is mainly engaged to system-ise and systematises clearly the knowledge (aspects; defined adopted criteria, references, perspectives, information et al.) and to **present adequately** these “**thematic substances**” to a lot of beneficiaries; the **unknown** aspects are also distinguished;

b. an conceived (idem) intellective (generic) **entity** framed in one/more **problematics** is — *ex definitio* — **predominantly unknown**; thus the main effort of the active intellectual is to **research the entity** (subject of a problem / question) by appropriate means (methodology: methods, procedures, et al. — named rational arguments, intuitions, mathematical and/or empirical models, theories, conjectures, simulations, virtual images et al.) in such a manner to arrive to a / near³ a (relatively) satisfactory **knowledge** (*ex definitio* permanently incomplete: improvable, transient) and use this **knowledge** in various form of *praxis* (*pro: Etica, Religia, Didactica, Tehnica, Politica, Economia, Philosophia, Scientia* et al.).

The intellectual “game” of **thematics & problematics** is exemplified in quasi infinitely various hypostasis: in *Historia Scientiae, Philosophiae, Technicae* et al., and in the current (day by day) activities of intellectualized aware persons; such **entities** (elementary/ composite) constitute the “raw materials” for the permanent *historisation* made by conscious persons — which legitimate the sentence “**Man is a historical vivid being**”. Thought this complex (intellectual; para-rational) **analysis & synthesis** are, successively defined, identified, selected, retained and studied and (finally) used in / for *Praxis* material **thinks/objects of thought** and also **thematics & problematics** (constituted, extended; new: created); and thus, the intellectual “game” named **thematics & problematics** continues long time — in *theoria* until the end of the species *Homo*.

conclusions, perspectives et al) can be obtained consulting the papers mentioned *ad enda* in the *bibliographia* *****.

- I. “*Valorificarea socială a unor arte factae arhaice relevante din arealul Danubius Banatiensis*”/ The social valuating of some relevant archaic *artae factae* from the Space named *Danubius Banatiensis*/⁴, authors: Liviu SOFONEA and Elena HELEREA from *Transilvania* University of Braşov, and Victor SOFONEA from ASTRA Sibiu.
=> The paper has been presented in two sessions of A.I.I.R., *filiala* Timişoara, included in the communication of the contributed paper entitled “*Homo Technicus Eminens* in extreme situations - The case of Romania in the critical period cca. 1st December 1989 – 1st February 1990”, presented at the XIXth International Congress on History of Science, Liège, 1998; published in 2002 in the volume VII of the Proceeding;
- II. “*Homo Technicus Technologicus Eminens* in a extreme situation: the case of Romania in the critical period cca. 1 December 1989 - 1 February 1999”, authors Elena HELEREA, Liviu SOFONEA, *Transilvania* University of Braşov.
=> This paper has been presented in the XIXth International Congress on History of Science, Liège, Belgium, 1998, section History of Engineering, organized by Newcomen Society from United Kingdom⁵, published in the Proceeding in 2003, also in the session *Ştiinţa, Tehnica şi Energia*, Cluj-Napoca, 2001, organized by A.I.I.R. /*Asociaţia Inginerilor Instalatori din România*/.
- III. “The wooden churches with high towers from Transylvania: technical-technological, historical, muzeological, axiological aspects”, author Liviu SOFONEA, *Transilvania* University of Braşov.
=> Communication has been made at the XVIIIth International Symposium ICOHTEC, Bath, United Kingdom, 1997, and at the *Festivalul Datinilor de Iarna*, Sighetul Marmaţiei, 2000, published in *Acta Musei Maramaresiensis*, 2002.
- IV. “*Places fortes importantes baties dans l'Espace Carpatho-Ponto-Danubien pendant la longue période ΔT ≈ 250 A.D. - 1000 A.D. - Aspects historiques, techniques, muséologiques, axiologiques*”, authors Liviu SOFONEA, *Transilvania* University of Braşov, Mihaela POPOV, *Museul Tehnic Dimitrie Leonida*, Bucureşti.
=> The paper was presented at the XXth International Symposium ICOHTEC, Prague, 1999, and at the Jubilee Session entitled *Civilizaţia şi Cultura la*

***** The titles of the papers written only in Romanian language are mentioned firstly as in their original version and secondly in the English translation. We have indicate also the scientific sessions where the quoted works were presented and the *documentum scriptum* (review, books, et al) in which these studies are published.

- Dunărea de Jos* /Civilization and Culture in the down Danube area / Călărași 2001/, published in *Actele Muzeului Dunării de Jos*, Călărași 2003.
- V. “*Homo mnezicus militans*”, author Liviu SOFONEA.
=> The paper was published in “*Actele Muzeului Dunării de Jos*”, Călărași 2003.
- VI. “Studies concerning the history of mining”, author Liviu SOFONEA, *Transilvania* University of Brașov.
=> Papers written in German language; the first chapters of the study antitled “*Entwicklung des Bergwerk in Carpatische - Donausche - Pontische Raum von Urzeit biss 1914/1918*”, were published in “*Annals of the University of Petroșani*” in 1998, and 2002.
- VII. “Ideas and necessary data useful in the foundation of a natural & cultural park — *Dacia rediviva* — centered on the important archaeological *situses Sarmisegetuza Regia* placed in the topos Grădiștea Muncelului and *Sarmisegetuza /Ulpia Traiana/* in the vilage Sarmis in Transylvania, Romania”, authors Liviu SOFONEA, Elena HELEREA, *Transilvania* University of Brașov, Victor SOFONEA, ASTRA Sibiu.
=> Published in a first version⁶ in “*Buletinul Universității Tehnice din Cluj-Napoca, Facultatea de construcții*”, 1981; now in print, (in an improved version) in the Bulletin of *Lucian Blaga* University of Sibiu, *Agro-Montanologia* Faculty.
- VIII. “*Cogitatum pentru Țara Făgărașului — Valorificarea socială a unor artae factae tehnice relevante*” / An ideatic project — *Cogitatum* — for *Țara Făgărașului*, România — the social valorization of some relevant technical *artae-factae*/, authors Liviu SOFONEA, Elena HELEREA, *Transilvania* University of Brașov, Florin OLTEANU, Fundația Culturală *Negru Vodă*, Făgăraș, Victor SOFONEA ASTRA Sibiu.
=> The study was presented in some sessions (organized by *Muzeul de Etnografie* of Brașov, *Casa Mureșenilor din Brașov*, published in the Bulletin *Rosturi și Rostiri* /Meanings and Expressions/ no. 1, 2000, and publication of *Fundația Culturală Negru Vodă*, Făgăraș.
- IX. “«The technical technological landscape» in the *Cogitatum pentru Țara Făgărașului*: technical - technological, historical, muzeological, axiological aspects”, authors Liviu SOFONEA, *Transilvania* University of Brașov, Florin OLTEANU, Fundația Culturală *Negru Vodă*, Făgăraș, Elena HELEREA, *Transilvania* University of Brașov, Victor SOFONEA, ASTRA Sibiu.
=> The paper was presented at the assembles and scientific sessions organized by *Fundația Culturală Negru Vodă* from Făgăraș, *Casa Mureșenilor din Brașov*, *Muzeul Etnografic din Brașov*, the XXI th Symposium of ICOHTEC in Granada, Spain, 2002, published (in extended Romanian version) by *Fundația Culturală Negru Vodă* from Făgăraș, in 2001, in the still mentioned Buletin *Rosturi și Rosturi*/ Mainings and Expressions/ also by *Casa Mureșenilor* in the *Țara Bârsei* no 1 (new version of the issue ofthis important cultural review; here the paper published is a short Romanian first version; in 2002); the En-

- glish version (which is more extended and improved) is now ready and will be printed in *Cibinium*, the *Buletin of Complexul muzeal ASTRA Sibiu*, in 2003.
- X. “The wooden mining truck from Transylvania: technical, historical, axiological, aspects”, authors Liviu SOFONEA, *Transilvania University of Braşov*, Victor SOFONEA, ASTRA Sibiu.
=> The study was published in the volume entitled *Ştiinţa, Tehnica şi Energia*, edited by A.I.I.R., Cluj-Napoca, and in the Proceeding of the International Conference on Constructions of Machines, in Braşov, 2001.
- XI. “The ancient furnace for melting ores found near Ghelari, Hunedoara county in Transylvania, Romania, dated XI century”, author Liviu SOFONEA, *Transilvania University of Braşov*.
=> Presented at the *Conference of Societat Catalana d’Història de la Ciència i de la Tècnica* in 1998 in Roquetes-Tortosa, Spain, published in *V Trobades d’Història de la Ciència i de la Tècnica*, Barcelona, 2000.
- XII. “*Calea ferată Kustendjé/ Constanţa / - Bogazchioi / Cerna Vod / în perioada 1860 – 1880 / The rail-way Kustendjé/ Constanţa/ - Bogazchioi / Cerna Vodă/ in the period cca. 1860 – 1880*”, author Liviu SOFONEA, *Transilvania University of Braşov*.
=> Presented at the session of *AIIR filiala Timişoara*, published in the Proceeding of the AIIR.’s Conference by *Universitatea Tehnică Timişoara*, in 2002.
- XII. “*Tezaurus* which generates problems”, author Liviu SOFONEA, *Transilvania University of Braşov*.
=>The study was published in *Questionis Europeniensis*, review of Central European Academy for Arts and Sciences /C.E.A. S.A./ Timişoara, 1997.
- XIII. “The technological trajectory in forced in industrialization — The case of Romania in the period cca. 1945-1989: The chemical combined factory from Copşa Mică, in Transylvania”, authors Liviu SOFONEA, *Transilvania University of Braşov*, Victor SOFONEA, ASTRA Sibiu.
=> Presented in the Congress for History of Economy, in the section Technological trajectories, in Sevilla-Madrid in 1997; published by the Herman Lang Publisher, Berlin - Bern, in 2001; also in an extended version in the Proceeding of the XXIth conference of A.I.I.R. *Ştiinţa şi Energia*, organized by the *filiala Transilvania*, Cluj-Napoca, 2002.
- XIV. “*Date şi consideraţii utile unor persoane care vor organiza o expoziţie permanentă prin care să se evoce adecvat cercetarea, descoperirea, explorarea şi folosirea manu militari a unor minereuri radioactive din subsolul României în perioada cca 1939-1989/1990*” /Data and considerations useful to persons which will organize a permanent exhibition by which is evoked adequately the research, discovery, exploration, and use *manu militari* of some radioactive uranium ores from the Romanian under soil in the period cca. 1939 - 1989/1990”, authors Liviu SOFONEA, *Transilvania University of Braşov*, Victor SOFONEA, ASTRA Sibiu.

- => Presented in two scientific sessions of AIIR, *filiala* Banat, and in one of the Petroșani University, at the occasion of the award *Doctor Honoris Causa* accorded to the first author, and in the annually session of C.R.I.F.Ș.T. a *Academiei Române*/ Romanian Academy/ Bucharest in 2001, and of the Jubilee Session of North University of Baia Mare 1999, published in two Romanian versions by Politehnica University of Timișoara, *Facultatea de Construcții și Arhitectură, Catedra de Instalații*, in 1999, 2000; the English short version was presented in a session organized by Petroșani University and published in the *Annals*, section Mining, in the autumn of 2003.
- XV. “*El Descubrimiento de America*”⁷ and some relevant consequences in the civilization & culture of the Carpathian — Danubeian — Pontean Space in the period cca. 1500-1825, author Liviu SOFONEA, *Transilvania* University of Brașov.
- => Presented in the XXI-th International Congress of History of Science, Ciudad de México, México, 2001, Section Trans-Cultural Diffusion of Science^{8,9}; the paper will be presented in the Proceeding of the Congress in 2003.
- XVI. “*A Cogitatum* useful for the persons engaged in the foundation of a *Museum vivum Technique*”^{9,10} in the European town Sibiu /Hermannstadt”, authors Liviu SOFONEA¹¹, *Transilvania* University of Brașov, Victor SOFONEA, ASTRA Sibiu.
- => Published in the first version in *Rosturi si Rostiri*/ Meanings and Expressions/ No. 2, the *Buletin al Fundației Culturale Negru Vodă*, in Făgăraș, 2003, presented at the *VII th Trobades de la Societat Catalana d’Història de la Ciència i de la Tècnica*¹², in Barcelona, Spain in 2002; it will be published in the proceeding in 2003.
- XVII. “A historical and epistemological analysis of the significances of the work of Romanian physicist and engineer Alexandru Proca (1897-1955)”, authors Liviu SOFONEA, Elena HELEREA, *Transilvania* University of Brașov.
- => The paper has been presented in the session of the International Conference Physical Interpretation of Theory of Relativity, /PIRT/ in London, in 2002, and it will be published in the proceeding of this scientific bi-annual meeting in 2003¹³.
- XVIII. “*Historia, Historiognomia* (Science: *Historio-graphia, Historio-logia*, Philosophy: *Historio-logia, Historio- gnozia, Historia (Didactica, Pedagogia, propaganda ideologia)*”, author Liviu SOFONEA, Universitatea Transilvania din Brașov.
- => Essay presented at two editions of the *Festivalul Lucian Blaga*, in Sebeș, Lancrăm, Cluj-Napoca, in 2000, 2001, published in *Caietele Blaga*, Alba Iulia, 2003.
- XIX. “Physical quantum *phaenomena* which could be discovered before the enunciation of the hypothesis which consider the existence of quantum of light-made in 1900 by Max Planck”, authors Nicolae IONESCU-PALLAS, Romanian Society of Gravitation, Bucuresti, Liviu SOFONEA, Universitatea Transilvania din Brașov.

- => The second author presented the paper at the International Congress “100 years of Theory of quantas” held in Madrid in 2000, published in the volume of the Congress in 2003.
- XX. “A historical and epistemological analysis of the Electrostatic experiences and theoretical considerations made by some scientists in XVIIIth century”, authors Elena HELEREA, Liviu SOFONEA, *Transilvania University of Braşov*.
=> The study was presented by the first author in the annually session of C.R.I.F.S.T. of Romanian Academy in Bucureşti, 2001, and is proposed to publication in *Noesis*, for 2003.
- XXI. “*Primele centrale hidroelectrice din Spaţiul Carpato-Danubiano-Pontic care au devenit muzeu*”/ The first hidro-electrical centrals from the Carpathean-Danubean-Pontean Space which became museums/, authors Elena HELEREA, Ioan MATLAC, Cornel MARINESCU, Laura RAB, Liviu SOFONEA, from *Transilvania University of Braşov*.
=> Communication was sustained in the annual session of C.R.I.F.Ş.T., in 2002, proposed to publication in *Noesis*, for 2003.
- XXII. “*Evoluţia Bio-tehnicii în Spaţiul Carpato - Ponto - Danubian în perioada cca. 1500 - 1918; date cronologice*”/ The evolution of Bio-technique in the Carpathean - Pontean - Danubean Space in the period cca. 1500 - 1918; Chronological data/, authors, Gligor CIORTEA, Nicolaie GEORGESCU, from *Lucian Blaga University of Sibiu*, Liviu SOFONEA, *Transilvania University of Braşov*.
=> the didactical study will be published in the *Buletinul Facultatii de Agro-Montanologie*, din Sibiu, 2002.
- XXIII. Several studies framed in *Historia Technicae*, authors Liviu SOFONEA, Elena HELEREA, and all coworkers/colleagues from *Transilvania University of Braşov*.
=> The studies - concerning the history of Tele-Communications¹⁵, Transports - Electro-statics, Electrotechnics¹⁶ et al., in the Carpathean - Pontean Danubean - Space have been published in the Proceeding of the Conferences organized by *Transilvania University of Braşov (CONAT, OPTIM, et al.)*, and Petroşani University.
- XXIV. Conferences in the topic *Paleo-tehnica*, author Liviu SOFONEA, *Transilvania University din Braşov*.
=> There were lectured at the sessions of AIIR in Timişoara, Cluj-Napoca, Iaşi, Agapia, Sinaia, respectively at the National Conferences on Mechanics (of: Solids, Fluids) held in Chişinău, Timişoara, Constanţa, Brăila, Piteşti et al; the presented conferences are published in the period 1995-2002 in the Scientific Buletins of A.I.I.R. Conferences, respectively of Technical University of Moldavia, *Ovidiu University of Constanţa*, University of *Dunărea de Jos* in Galaţi.
- XXV. Lectures on History of Technique => sustained by Liviu SOFONEA, Elena HELEREA, Viorel ENE, Ioan MATLAC from *Transilvania University in Braşov*.

=> There were organized by *Transilvania* University of Braşov, *Lucian Blaga* University of Sibiu, University of Petroşani, *Muzeul de Istorie* from Braşov, *Muzeul Civilizaţiei Populare ASTRA* /Complexul Muzeal/ from *Dumbrava Sibiului*, *Muzeul Hermann Oberth* in *Mediaş*; some of them were annually, another only occasionally.

XXVI. Professional contacts

=> With: ICOHTEC, Newcomen Society, /British Society for History of Technique and Engineering from United Kingdom/, Central European Academy for Science and Art /C.F.A.S.A./, Astronomical Society of India, Università degli Studi Padova, Universidad de La Rioja, in Logroño, Universidade de Lisboa, University of Gent, Université de Sevenan, Université de Liège, University of Dortmund, Fachhochschule Bochum, University of Patras, University of Athens et al.

XXVII. Ideational Projects /*Cogitatum*/ necessary for the achievement of some pre-conised *museum* –isation of some technical *vestigiums* / *sets of vestigiums* in: *Transilvania* University of Braşov, *Municipiul Braşov*, *Ţara Bârsei*, *Făgăraş* and *Ţara Făgăraşului*, Sibiu and *Marginimea Sibiului*, *Valea Jiului*.

=> The results of these preliminary projects could be - after an accurate *mise en oeuvre* of some technical projects /based/ derivatives on (from the theoretical *cogitatum*s - vivid (interactive; with relevant thesaurus) museal-units (*centrum saluatoris* /*salutatorium*/, *securae*, et. al) of some real *Museum Technicum Vivum*.

The entities of various *museum*-isations are named generically *vestigium*: i.e. material & spiritual (tangible, intangible) “things” which are goods considered to be “loaded” by history.

The levels of *museum*-isation are:

- a. preliminary identification of the *vestigium*,
- b. effective identification of the *vestigium*,
- c. detailed recording of the *vestigium*: after serious researches (systemic, comparative systematical, with poly-valences et al) which determine the type and suggest/decide/ the destination,
- d. preliminary protection of the *vestigium*^{19,20},
- e. effective protection of the *vestigium* *in situ* /extra *situs*, maintained/ improved *in cursu Tempis*,
 - e1. *in status conservatio*,
 - e2. *in usu pro Technica* (in productive function with specific efficiencies),
 - e3. *in usu pro Scientia*¹⁹ (in archives, reservations, *repositoriums*, *bibliotecas*, *laboratoriums*),
 - e4. *in usu pro publicum* (in current *communicatio*: as *monumentums* and/or evident comprehensible references, as permanent/temporary exhibitions, et al.; in lasting sustainable communication: *in libera-*

ias, in *museums* conceived and functioning as *colectio rei*, or as interactive *museum vivum*²⁰),

- f. complex lasting protection of the *vestigiums*¹⁷ achieved by carefully:
 - f.1. preservation *in situ*,
 - f.2. restoration (*in integrum, in pars*), i.e. rigorous remaking with the specific/ very new technologies²¹,
 - f.3. re-operating (cases when the items are adequately used by some beneficiaries not *stricto sensu* entirely as it was some long time ago but in a *mutatis mutandis* similar manner²¹),
 - f.4. reconstruction (completion of the identified recorded and considered *vestigium* with some structures which were *illo tempore* wearied / destroyed, /moved/ dissapeared^{22,23} a curation performed in such a manner that the renewed items looks like the original²³; this difficult *renovatio* must be performed only by profesionists²⁴ (with gifs, competence; after serious researches) using exigently the old original techniques²⁵, the reconstructed parts - being news additionalized components, - must be in all the cases rigorously explicitly marked²⁶.
 - f.5. restruction²⁷: convenient²⁸ completion of the conserved *vestigiums* with some structures which were destroyed/ wearied/ depredated /obsolete/ - a curation performed in such a manner that the renewed items looks very similar with regard the original²⁹; this *renovatio* must be performed only by profesionists^{24,29}
- g. evocation of the *vestigiums*: representing adequately³⁰ the conserved /mentioned³¹ *vestigiums* by models³², copies, replicas^{28,32,33}, transpositions, monuments³⁴ - in such a manner achieved to restitute satisfactory³⁵ by these *novae artae-factae* an important³⁶ part of the memory of places³⁷; the representations³⁹ made by these subtly processed substitutes³⁷ can/ must be achieved with appropriate techniques and technologies (old, new; performant) i.e. which these “tools” by which the *monumentists*/ evocators can express the assumed mesages^{40,41,42,43,44}.

XXVIII. *Documentarium* with data concerning the *cursus* of evolution of Techniques in the Carpathean-Danubean-Pontean Space in the historical period which begin in “the mist of time” until 1914/1918 , authors Liviu SOFONEA, Elena HELEREA from *Universitatea Transilvania* in Braşov.

=> In preparation at *Transilvania University* of Braşov.

XXIX. “*Hermeneutica Historiae et Philosophiae Technicae*, Culegere de Studii de Istorie şi Filozofie a Stiinţei şi Tehnicii”; coordinator Liviu SOFONEA, *Transilvania University* of Braşov.

=> *Summa* of studies achieved in the last cca. 20 years in the frame of the section /*filiala*/ Brasov of CRIFST and in its *sectura* from Sibiu, *Facultatea de Agro-Montanologie*; the most part of the enumerated *opus-es* in this review will be included in the *Tomus I* and *Tomus II*, which we plan to publish in 2003.

Notes and some subsidiary comments

1. The domain of the research in *Scientia* and *Technika* — two prominent activities of *Homo Aestimans* (conscious: *Axiologicus*; *Mnesicus*: *Historicus*; *Philosophans*) — parts which are distinct (*in mente*; *in praxis*) and permanently in complex *interactio*: *Science* — is mainly a personalized part of *Culture*, *Technique* — is mainly a dynamic part of *Civilization*; during the *History* were existed also techniques of / in some cultural activities (techniques used in arts, respectively in sciences: as *auxiliums*, as intrinsic specific *modus* of the spiritual process of creation, presentation, reception; spiritual exercises et al.); these *formae mentis* exist also now days (the techniques used in museology constitute a peculiar example).

2. Didactical institution: devoted to instruction and education of some interested diligent persons (students, attendants; technicians and another intellectuals) which have desired and some continue to desire to improve their culture and logical performances by a coherent reception of some information — data, interpretations, and forms (methods, procedures et al) which are characteristic to the lectures (*cursus*, *seminariums*; *colocviums*, *examenum*, *programa analitica* et al) of the poly-disciplinary matter /*materia didactica*/ named **History of Science and of Technique-Technology**.

3. The «**industrial archaeology**» was a very actual topic (**thematic & problematic**) in the last centuries which have interested many persons (scientists, technicians, philosophers, economists, ecologists, sociologist, observers, historians, politicians, *culturologists* et al.) which have considered the concept in several (complementary et al.) *sensums*: the **archaistic** of the objects (old *artae-factae*, workshops, plants et al.) and of methodologies (ideas, methods, procedures et al.), the existence of a non-written/oral information the existence of some written information, the past of some not extremely old/obsolete objects (*idem*), the **technical heritage** (a comprehensive meaning: the objects (*idem*) are tangible & intangible parts of the **patrimony of Civilization & Culture** of some areals (alveolus, matrices) — some of them even of the *tesaurus* of the **Mankind**; evidently the position of this topic is, a fortiori, a focusable one from many persons (*idem*) in the new saeculum XXI-A.D.

4 Conventional denomination by which is précised a geographical & cultural peculiar area: the band along the northern bank of the biggest European river-the Danube-domain determined *ex definitio* by:

- a. in the West: by the village Bazias in *județul*/county/ Timiș, in the province Banat, where the river “enter” in Romania,
- b. in the East: in *aval*, by the fortified small island Simian placed near the town Drobeta-Turnu Severin in *județul* /county/Mehedinți, which belong to the province Oltenia,
- c. in the North: the extension of this territory is about $\Delta l \approx 25$ km, from the bed of Danube—in the trans-riveral zone space placed in the adjacency of *Clisura Dunării* /*Porțile de Fier*/ *Cazane*/ *Gerdap*/ *Vaskapú* /in which are included (on the shores) the impressive gorges of Danube, the towns Moldova Noua, Orșova and Drobeta - Turnu Severin; the conventional *limes* separate the

considered space with regard to the very important areal named *Banatul Montan*/Mountain Banat / (in which are placed the reputed *situs*es with valuable technical monuments: Topleț, Mehadia / the antique *Ad Mediam*/, Băile Herculane /Herkulesch/, Oravița, Anina, Rudăria/ Eftimie Murgu/, Reșita, Bocșa, Secul, Doman, Carașova, Cliciova, Ciudanovița, Gărbăna, Văliung, Grebla, et al.,

d. in the South: by the right bank of Danube which is the natural frontier between Romania and Yugoslavia / Serbia/ and Bulgaria.

5. The organizer was the eminent British scientist Michael Ciaran Duffy, professor at the University of Sunderland.

6. With the contribution of Gheorghe Mihai, professor at *Universitatea de Vest*, Timișoara.

7. The extraordinary adventure - *la traversia del Atlantico de las caravelas, Santa Maria, Pinta, Nina, y el echipe de marineros y exploradores* ruled by Cristobal Colon /Columbus/, *El Amirante del Mar Ocean*, and continued by many discoverers, conquerers, organizers — has had important consequences for the evolution of the Culture & Civilisation of the Carpathean-Danubean-Pontean Space in the XVIth – XVIIIth centuries: *el maíz, el potato, el frijol, tomato, chocholate*, turkey births, ... , geographical knowledge and another information (the new *Imago Mundi* et al.), some forms of syphilis/*morbus galicus*/ et al.

8. A brief review of the XXI International Congress of History of Science was presented by Liviu SOFONEA in the cultural review *Transilvania*, nr. 6, Sibiu, 2002; a more analytical exposition will be published in the *Actele Muzeului de Istorie din Brașov* in 2003.

9. A notice was published by professor Horia COLAN, M.C. of Romanian Academy in *Noesis, Travaux du Comité Roumain d'Histoire et de Philosophie des Sciences*, no. XXVIII, Editura Academiei Române, București, 2002: in the finale section *La Vie Scientifique*, with the title “*Science et Diversité Culturelle*”, *Le XXI^e Congrès International d'Histoire des Sciences de Mexico* pp. 247-249.

10. The preconized scientific & didactical & cultural Institution is conceived (*de plano*!) as an “analytical extension” of the marvelous *Muzeul Civilizatiei Populare* ASTRA, from Dumbrava Sibiului.

11 Member in *Consiliul stiintific al Muzeului Civilizatiei populare*, ASTRA Sibiu

12. *Filial de l'Institut d'Estudis Catalans*.

13. In this work the team has extended and endeeped an analysis made previously by the first author to the *vita et opus* of the eminent Romanian scientist.

14. This team prepare a study in which are presented the major consequences of the Discovery of Americas, initiated in 1992 by the group of navigators explorers leaded by Christophor Columb/ Columbus.

15. The short *studiums* entitled “*Homo mobilis, Homo informaticus, Homo Volans*”, were achieved by Liviu SOFONEA, *Transilvania* University of Brașov, et al.

16. Experiments in Electricity-mainly in Electro-statics-in the XVIIth and XVIIIth centuries: considerations of Elena HELEREA and Liviu SOFONEA, from the *Transilvania* University of Brașov, et al.

17. Material /tangibles/ non-material /non-tangibles/ aspects.
18. Concerning the first micro-hidro electrical plants we mention here the studies made by Cornel MARINESCU, Andrei NICOLAIDE, Elena HELEREA and Liviu SOFONEA, from the *Transilvania* University of Braşov, Raul MIHAIL, from Muzeul Bran et al.
19. Frequently some studies are made also after the “moment” when the considered *vestigiums* are well /provisory protected, even *museum*-ised: occasionally, intermitently, continuously.
20. In reserves, et al.; clever cultural policy: ecological, open, communitarian.
21. Example: timers-as tram ways, cars, ships, tele-communication devices et al.-renewed as they were, and presented in *museums* (“dead” / in motion); in few cases the restored items are a repaired (completed, refurbished et al.) “archaic” artifacts used (for a short period of time) in production even after the (postponed) “moment” of its put “in pension”, i.e. used exclusively as an “*museal* good”.
22. And are/ could be **known**; and-as consequence of this favorable circumstance-it is possible to be modeled as such / in a plausible manner which is considered a good similarity.
23. With known/ estimated *imagos*.
24. Muzeographs, muzeologs, archaeologists, qualified engineers, bioblioteconomists etc., few amateurs with high experiences and skillfulness i.e. not get recorded as *magisteri*.
25. Many of them disappeared, some of them scarcely used “here and there”.
26. Discretely but clearly.
27. i.e. recompose the original structure of *vestigiums*: in some details, functions et al.
28. Accepting the “order” of the postulate: in history the situations could be (in some degrees and concerning some aspects) similar/comparables-but in essence they are **unique**, i.e. they are marked by the “sceal” *non bis in idem*; the re-structured *vestigiums* are only **approximate replicas** of the **originals**.
29. After serious researches, using (cleverly, skillfully) some old/comparable originary techniques, in accordance with the efficient use of some newer/contemporary materials, methods, and procedures.
30. Suggestively by comprehensively corporalized monuments, by allusions, by literary and/or plastic methods and procedures (tales, novels et al; images: pictures, spatial forms; by technologies of the “virtual expression”).
31. In various forms: recorded legends, oral indications, by some scarce preserved spurs (material old remains, written et al).
32. Structures — (in complementariness; with interfered representatives aspects et al) — by which are expressed the most interesting (essential, pregnant, noticeable, insolits etc) properties of the **archaic objects/technical systems**.
33. Not entirely like the **copies**: different from them (in dimensions, et al, features) but essentially “congruent”.
34. In all the cases with some aestetical valences, representing the old ones “situations” (factual, et al.) which were compatible with the technological norms (simpli-

city, economicity, *sectio aurea* et al.), and some new aspects (compatibles with the ancient ones: suggestive, et al.; also shocking: surrealists, baroc, computerized, etc) but not abusive / fraudulent, kitches/.

35. For exigent, competent, reasonable critics, observers, considerators.

36. From case to case, having in mind that the evocators produce evocations of some gone thinks and passed human livings /*trăiri omenesti; trecute treceri și petreceri*/ which are “pushed” in the inexorably irreversible historical motion: *non bis in idem in flumen scendimus*.

37. The passed experiences of the inhabitants of the considered *situs-es* in some considered phases of *Tempus* — i.e. of *Historia* — marked (even) by the *vestigiums*.

38. Never the whole: *optime casu* the esences or the most important “condimented” elements, with some noticeable aspects of the *pletora* of “mnemosoms”!

39. Which address/excite the intentions, the senses, the feelings, the thoughts, the wildlings, the imaginations.

40. The harmonization is expressed more suggestively *in metaphora* — because by this procedure are better characterized some important (subtle, ineffable) *modus-es* of Arts (aesthetical essays and results) and also of Philosophy (motivations, intentions, mysteries, descriptions of feelings, enounces of some axiological judgments): the means used are like musical instruments which have intrinsically in their structures the proper vibrations in accordance/ “resonance” with those of the “strings” of the souls of monumentalists / evocators.

41. An example: placing some **replicas/ models of real (obsolete/ no more subsisting)** *artae-factaes*, respectively some informational advertisers or monumental representations in the/ near the considered *situs-es*.

42. Such evocations can be /could be made in various situations with creative efforts, often without huge expenses;

- a. in materials: original/ cuazi-original, substitutes;
- b. in procedures and methods: ancient (known / approximated), more recent really adequate, per formant (in simplicity, in velocity of achievement, chromatics, resistance, prices, precision etc.).

43. Example: evocations of some installations of a city sunken in “old times” — made by placing /replacing of some parts/ replicas of the destroyed walls and porches, harbours, instruments, another urbane structures (“*imago*”, *murus*, *aedificia*, *scriptoriums* et al.).

44. The **didactical** wide public evocation is an efficient *modus*: expositions of some functional parts of some *paleo machinae* (steam engines, *auto-mobile-s* /automotives/ transporters, etc), expositions of another information.

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